

IN THE CLAIMS

Please cancel claims 7-8 without prejudice, amend claim 9 and add claims 10-13 as follows:

- 1 1. (Previously Presented) A receiver for receiving a dual code
- 2 spread spectrum signal, comprising:
- 3 a plurality of diversity antennas,
- 4 an adaptive forward equal gain combiner having a plurality of
- 5 branches, each branch being coupled to a respective one of said
- 6 diversity antennas, each diversity antenna receiving a respective
- 7 carrier signal,
- 8 wherein said combiner comprises:
- 9 means for selecting a signal in one of said branches as a
- 10 reference signal,
- 11 means for co-phasing the carrier signals in each of the respective
- 12 branches with the reference signal,
- 13 means for splitting an output from the combiner into two
- 14 output channels,
- 15 means for demodulating the signals in the output
- 16 channels,

17 means for correlating the signals in each of the output
18 channels with respective ones of the dual spreading codes and means
19 for recovering data from the correlated signals.

Claims 2-3 (Canceled)

1 4. (Previously Presented) A receiver as claimed in claim 1,
2 wherein each branch comprises:
3 a multiplier having a first input for a signal from its
4 antenna and a second input for a phase adjusted local oscillator
5 signal and an output for a difference signal,
6 a filter for removing high order harmonics from the
7 difference signal,
8 a weighting controller having means for producing a
9 weighting signal which is applied to a first phase shifter for
10 adjusting the phase of the local oscillator signal and a weighting
11 factor related to the selected reference signal,
12 a second phase shifter having an input for a signal
13 derived from the antenna, said second phase shifter having an input
14 for the weighting factor whereby the input signal is co-phased with
15 the selected reference signal, and

16 a signal combiner for combining the selected
17 reference and co-phased signals from the respective branches.

1 5. (Previously Presented) A receiver as claimed in claim 1,
2 wherein a centralized weighting controller comprises for each of
3 said branches:

4 a multiplier having a first input for a signal from its
5 antenna and a second input for a phase adjusted local oscillator
6 signal and an output for a difference signal,

7 a filter for removing high order harmonics from the
8 difference signal,

9 a weighting controller having means for producing a
10 weighting signal which is applied to a first phase shifter for
11 adjusting the phase of the local oscillator signal and a weighting
12 factor related to the selected reference signal,

13 a second phase shifter having an input for a signal
14 derived from the antenna, said second phase shifter having an input
15 for the weighting factor whereby the input signal is co-phased with
16 the selected reference signal, and

17 a signal combiner for combining the selected reference
18 and co-phased signals from the respective branches.

1 6. (Previously Presented) A receiver as claimed in claim 5,
2 wherein the weighting controller comprises a controller for
3 receiving digitized filtered outputs of the respective multipliers,
4 a first memory means storing the weighting signals coupled to the
5 controller, a second memory means storing the weighting factors
6 coupled to the controller, the controller having an outputs coupled
7 respectively to the first and second phase shifters.

Claims 7-8 (Canceled)

1 9. (Currently Amended) A receiver for receiving a dual code
2 spread spectrum signal, comprising:
3 a plurality of diversity antennas,
4 an adaptive forward equal gain combiner having a plurality of
5 branches, each branch being coupled to a respective one of said
6 diversity antennas,
7 wherein each of said branches comprises:
8 frequency down conversion means and phase compensating
9 means, ~~in that~~ wherein a local oscillator is coupled to each of
10 said compensating means, ~~in that~~ and wherein each of said phase

11 compensating means comprises:

12 means for adjusting the phase of the local oscillator to
13 minimize the phase difference between the adjusted phase of the
14 local oscillator frequency and the phase of the signal received by
15 the respective branch, and

16 means for selecting the branch having a minimum phase
17 deviation with respect to the local oscillator frequency and
18 treating that signal as a reference signal,

19 means for splitting an output from the combiner into two
20 output channels,

21 means for demodulating the signals in the output
22 channels,

23 means for correlating the signals in each of the output
24 channels with respective ones of the dual spreading codes and means
25 for recovering data from the correlated signals.

1 10.(New) A communication system having a receiver for
2 receiving a dual code spread spectrum signal, said receiver
3 comprising:

4 a plurality of diversity antennas,

5 an adaptive forward equal gain combiner having a plurality of

6 branches, each branch being coupled to a respective one of said
7 diversity antennas, each diversity antenna receiving a respective
8 carrier signal,

9 wherein said combiner comprises:

10 means for selecting a signal in one of said branches as a
11 reference signal,

12 means for co-phasing the carrier signals in each of the
13 respective branches with the reference signal,

14 means for splitting an output from the combiner into two
15 output channels,

16 means for demodulating the signals in the output
17 channels, and

18 means for correlating the signals in each of the output
19 channels with respective ones of the dual spreading codes and means
20 for recovering data from the correlated signals.

1 11.(New) A communication system as claimed in claim 10,

2 wherein each branch comprises:

3 a multiplier having a first input for a signal from its
4 antenna and a second input for a phase adjusted local oscillator
5 signal and an output for a difference signal,

6 a filter for removing high order harmonics from the
7 difference signal,

8 a weighting controller having means for producing a
9 weighting signal which is applied to a first phase shifter for
10 adjusting the phase of the local oscillator signal and a weighting
11 factor related to the selected reference signal,

12 a second phase shifter having an input for a signal
13 derived from the antenna, said second phase shifter having an input
14 for the weighting factor whereby the input signal is co-phased with
15 the selected reference signal, and

16 a signal combiner for combining the selected reference
17 and co-phased signals from the respective branches.

1 12.(New) A communication system as claimed in claim 10,
2 wherein a centralized weighting controller comprises for each of
3 said branches:

4 a multiplier having a first input for a signal from its
5 antenna and a second input for a phase adjusted local oscillator
6 signal and an output for a difference signal,

7 a filter for removing high order harmonics from the

8 difference signal,

9 a weighting controller having means for producing a

10 weighting signal which is applied to a first phase shifter for

11 adjusting the phase of the local oscillator signal and a weighting

12 factor related to the selected reference signal,

13 a second phase shifter having an input for a signal

14 derived from the antenna, said second phase shifter having an input

15 for the weighting factor whereby the input signal is co-phased with

16 the selected reference signal, and

17 a signal combiner for combining the selected reference

18 and co-phased signals from the respective branches.

1 13.(New) A communication system as claimed in claim 12,

2 wherein the weighting controller comprises a controller for

3 receiving digitized filtered outputs of the respective multipliers,

4 a first memory means storing the weighting signals coupled to the

5 controller, a second memory means storing the weighting factors

6 coupled to the controller, the controller having an outputs coupled

7 respectively to the first and second phase shifters.